

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 26-40 are presented for consideration. Claims 26, 34 and 38-40 are independent. Claim 40 has been added to recite additional features of the subject invention. Support for this claim can be found in the original application, as filed. Therefore, no new matter has been added.

Applicant requests reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 26-39 were rejected under various statutory bases as being unpatentable over U.S. Patent 6,522,384 to Miwa. Applicant submits that this patent does not teach many features of the present invention, as recited in these claims. Therefore, this rejection is respectfully traversed.

In one aspect of the invention, independent claim 26 recites an exposure apparatus for exposing a substrate with a pattern of an original. The apparatus includes a housing filled with a predetermined ambience, for accommodating therein at least a portion of a light path of exposure light, a reflecting member disposed in the housing, and a laser interferometer having a light source and a light receiving element for receiving light from the light source after being reflected by the reflecting member. At least one of the light source and the light receiving element is disposed outside the housing.

In another aspect of the invention, independent claim 34 recites an exposure apparatus for exposing a substrate with a pattern of an original. The apparatus includes a housing filled with a

predetermined ambience, for accommodating therein at least a portion of a light path of exposure light, a detection system having an optical system, wherein a portion of a light path of the detection system is disposed in the housing while at least a portion of the light path of the detection system includes an electrical element thereof is disposed outside the housing, and a laser interferometer disposed outside the housing.

In yet another aspect of the invention, independent claim 38 recites a device manufacturing method including the steps of exposing a substrate with a pattern of an original by use of an exposure apparatus, and developing the substrate after the exposure, wherein the exposure apparatus includes (i) a housing filled with a predetermined ambience, for accommodating therein at least a portion of a light path of exposure light, (ii) a reflecting member disposed in the housing, and (iii) a laser interferometer having a light source and a light receiving element for receiving light from the light source after being reflected by the reflecting member. At least one of the light source and the light receiving element is disposed outside the housing.

In still another aspect of the invention, independent claim 39 recites an exposure apparatus for exposing a substrate with a pattern of an original. The apparatus includes a housing, filled with a predetermined ambience different from an atmospheric state, for accommodating therein at least a portion of a light path of exposure light, and a detection system including (i) a light source, (ii) a light receiving element for receiving light from the light source, and (iii) an optical system for directing light from the light source to the light receiving element, wherein a portion of a light path of the optical system is disposed in a first space enclosed by the

housing, at least one of the light source and the light receiving element is disposed in a second space outside the housing, and the second space is filled with a predetermined ambience different from the atmospheric state.

Applicant submits that the cited art does not teach or suggest such features of the present invention, as recited in independent claims 26, 24, 38 and 39.

The Miwa patent relates to an exposure apparatus that includes a light source, one or two or more housings each for accommodating therein an optical element disposed along an exposure light path extending from the light source to a substrate, a first substitution system for substituting the interior of the housing with an inert gas ambience, and a second substitution for substituting the interior of a holding mechanism for holding the optical element accommodated in the housing, with an inert gas ambience.

Applicant submits, however, that the Miwa patent does not teach or suggest at least the feature of the present invention recited in independent claims 26 and 38 of a laser interferometer having a light source and a light receiving element for receiving light from the light source after being reflected by the reflecting member.

In more detail, the Miwa patent discloses mirrors 2, 6 and 12 disposed in housing 17, and a laser interferometer 20/27. Applicant submits, however, that in that patent, the mirrors 2, 6 and 12 do not reflect the light from the laser interferometer. Rather, they reflect the light from the ArF laser source 1. See column 5, lines 8-40, in that patent. The light source from the ArF laser source 1 is reflected by the mirror 19/26, which is disposed outside of the housing 17. Applicant submits that this arrangement is in marked contrast to the present invention.

Regarding the invention recited in independent claim 34, Applicant submits that the Miwa patent does not teach or suggest the feature of the detection system having an optical system, wherein a portion of a light path of the detection system is disposed in the housing.

Likewise, regarding the present invention recited in independent claim 39, Applicant submits that the Miwa patent does not teach or suggest at least the feature of the detection system recited in this claim, which includes (i) a light source, (ii) a light receiving element for receiving light from the light source and (iii) an optical system for directing light from the light source to the light receiving element, in which a portion of a light path of the optical system is disposed in a first space enclosed by the recited housing, at least one of the light source and the light receiving element is disposed in a second space outside the housing and the second space is filled with a predetermined ambience different from the atmospheric state.

Accordingly, Applicant submits that the Miwa patent does not teach or suggest many features of the present invention as recited in independent claims 26, 24, 38 and 39.

Applicant further submits that the Miwa patent does not teach or suggest the salient features of Applicant's present invention as recited in independent claim 40. Namely, Applicant submits that the Miwa patent does not teach or suggest the arrangement of the housing and the detection system of the present invention recited in that claim.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 26, 34 and 38-40, is patentably defined over the cited art.


Dependent claims 27-33 and 35-37 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their

respective independent claims. Further individual consideration of these dependent claims is requested.

Applicant further submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,


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